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10/530,877	04/11/2005	Isao Kubota	1600-0160PUS1	2263
2292 7590 04/15/2008 BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747				
EXAMINER BERNSHTEYN, MICHAEL				
ART UNIT		PAPER NUMBER		
1796				
NOTIFICATION DATE		DELIVERY MODE		
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

# Office Action Summary

**Application No.**

10/530,877

**Applicant(s)**

KUBOTA ET AL.

**Examiner**

MICHAEL M. BERNSTEYN

**Art Unit**

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 02 January 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1, 2, 4-11, 13 and 15-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 4-11, 13 and 15-17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB-083)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

1. This Office Action follows a response filed on January 2, 2008. Claims 1, 2, 4, 13 and 15 have been amended; claims 3, 12 and 14 have been cancelled; no claims have been added.
2. In view of the amendment(s) and remarks, the objection of claims 2 and 3, the rejection of claims 1-3, 5, 11 and 15-17 under 35 U.S.C. 102(b) as being anticipated by Kobayashi et al. (U. S. Patent 5,965,640), the rejection of claims 4 and 6-10 under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Kobayashi et al., the rejection of claims 12 and 13 under 35 U.S.C. 103(a) as being unpatentable over Kobayashi et al. in view of Takashima et al. (U. S. Patent 6,815,506), and the rejection of claim 14 under 35 U.S.C. 103(a) as being unpatentable over Kobayashi et al. in view of Takashima et al. (JP 04-126738) have been withdrawn.
3. Applicant's arguments with respect to claims 1, 2, 4-11, 13 and 15-17 have been considered but are moot in view of the new ground(s) of rejection.
4. Claims 1, 2, 4-11, 13 and 15-17 are pending.

### ***Claim Rejections - 35 USC § 103***

5. The text of this section of Title 35 U.S.C. not included in this action can be found in a prior Office Action.
6. Claims 1, 2, 4-11, 13 and 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kobayashi et al. (U. S. Patent 5,965,640) in view of Takashima et al.

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(U. S. Patent 6,815,506 and JP 04-126738) and McManimie et al. (U. S. Patent 3,575,785).

With regard to the limitations of claims 1 and 17, Kobayashi discloses a crosslinkable acrylic rubber composition, which comprises (1) a halogen-containing acrylic rubber, (2) a triazine thiol compound, (3) a dithiocarbamine acid derivative or a thiuram sulfide compound, or both, (4) a hydrotalcite compound or an organotin compound, or both, (5) an aromatic carboxylic acid compound or an acid anhydride thereof, or both, (6) a white silica filler with a pH of 2-10, and (7) a silane coupling agent (abstract). Kobayashi discloses unsaturated carboxylic acid or the anhydrides thereof, such as (meth)acrylic acid, ethacrylic acid, crotonic acid, cinnamic acid, maleic acid, maleic anhydride, fumaric acid, itaconic acid, itaconic anhydride, citraconic acid, etc. (col. 4, lines 28-35). Additionally as component (5), the following aromatic carboxylic acid compound and the acid anhydride can be used: aromatic monocarboxylic acids, such as benzoic acid and salicylic acid; aromatic dicarboxylic acids (and acid anhydrides), such as o-phthalic acid, phthalic anhydride, isophthalic acid, and terephthalic acid; aromatic tricarboxylic acids (and acid anhydrides), etc. (col. 7, lines 44-57).

With regard to the limitations of claim 1, Kobayashi does not disclose that the acrylic rubber composition further comprises aluminum silicate.

Takashima'506 discloses that the examples of inorganic fillers for a rubber composition include **silica**, ground whiting, chalk, light calcium carbonate, extra-fine activated calcium carbonate, special calcium carbonate; basic magnesium carbonate,

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kaolin, calcined clay, pyrophyllite clay, silane-processed clay, synthetic calcium silicate, synthetic magnesium silicate, synthetic **aluminum silicate**, magnesium carbonate, aluminum hydroxide, magnesium hydroxide, magnesium oxide, etc. (col. 8, lines 48-67).

Both references are analogous art because they are from the same field of endeavor concerning new acrylic rubber compositions.

Therefore, all of the above inorganic fillers are functional equivalents and can be substituted by each other. Thus, Takashima recognizes the equivalency of silica used by Kobayashi and aluminum silicate as inorganic filler. In the instant case the substitution of equivalents inorganic fillers requires no express motivation, as long as the prior art recognize equivalency, *In re Fount*, 213 USPQ 532 (CCPA 1982); *In re Siebentritt*, 152 USPQ 618 (CCPA 1967); *Graver Tank & Mfg. Co. Inc. V. Linde Air Products Co.* 85 USPQ 328 (USSC 1950), and a person skilled in the art would have found obvious to substitute partly silica of Kobayashi for aluminum silicate of Takashima based on their recognized equivalency and with the reasonable expectation of success.

With regard to the limitations of claims 1 and 13, the combined teaching of Kobayashi and Takashima'506 does not disclose that aluminum silicate contains the specific weight ratio of  $\text{Al}_2\text{O}_3$  and the ratio of the content of  $\text{SiO}_2$  to the content  $\text{Al}_2\text{O}_3$ .

McManimie discloses aluminum silicate containing about 67%  $\text{SiO}_2$  and about 20%  $\text{Al}_2\text{O}_3$ , which is within the claimed range (col. 5, lines 42-45).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate aluminum silicate containing  $\text{SiO}_2$  and  $\text{Al}_2\text{O}_3$  within the claimed range as taught by McManimie in Kobayashi and Takashima's

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acrylic rubber composition because such aluminum silicate can be successfully used as a reinforcing material (US'785, col. 5, lines 28-47), and thus to arrive at the subject matter of instant claim 1 and dependent claim 13.

With regard to the limitations of claim 1, Kobayashi does not disclose that the crosslinking agent is a polyamine compound.

Takashima'738 discloses that the polyfunctional crosslinking agents are preferably **polyamines**, diamines, dithiols, polyisocyanates, maleimides, dicarboxylic acids, etc. (page 7, the last paragraph).

Both references are analogous art because they are from the same field of endeavor concerning new acrylic rubber compositions.

Therefore, all of the above crosslinking agents are functional equivalents and can be substituted by each other. Thus, Takashima recognizes the equivalency of dicarboxylic acids used by Kobayashi and polyamines as a crosslinking agent. In the instant case the substitution of equivalents crosslinking agents requires no express motivation, as long as the prior art recognize equivalency, *In re Fount*, 213 USPQ 532 (CCPA 1982); *In re Siebentritt*, 152 USPQ 618 (CCPA 1967); *Graver Tank & Mfg. Co. Inc. V. Linde Air Products Co.* 85 USPQ 328 (USSC 1950), and a person skilled in the art would have found obvious to substitute dicarboxylic acids of Kobayashi for polyamines of Takashima based on their recognized equivalency and with the reasonable expectation of success.

With regard to the limitations of claim 2, Kobayashi discloses the following compounds as preferred examples of the alkyl acrylate used in the halogen containing

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acryl rubber: methyl acrylate, ethyl acrylate, n-propyl acrylate, isopropyl acrylate, n-butyl acrylate, isobutyl acrylate, n-hexyl acrylate, 2-ethylhexyl acrylate, and cyclohexyl acrylate. Of these, ethyl acrylate and n-butyl acrylate are especially preferred. These alkyl acrylates may be used either individually or in combinations of two or more. (col. 3, lines 29-37).

Given as examples of the preferred alkoxyalkyl acrylate are methoxy methyl acrylate, ethoxy methyl acrylate, 2-methoxy ethyl acrylate, 2-ethoxyethyl acrylate, 2-propoxyethyl acrylate, 2-butoxyethyl acrylate, 3-methoxy propyl acrylate, 4-methoxy butyl acrylate. Of these, 2-methoxy ethyl acrylate and 2-ethoxyethyl acrylate are especially desirable. These alkoxyalkyl acrylates may be used either individually or in combinations of two or more (col. 3, lines 38-46).

With regard to the limitations of claims 4, 8 and 9, Kobayashi does not disclose the claimed properties of the synthetic silica and a process of the preparation of calcined silica.

It is worth to mention that Kobayashi exemplifies the trademarks of wet silica: Nipsil and Carplex (col. 13, lines 21-22 and 25-26; Table 1, col. 14, lines 15 and 17), which are substantially identical to the trademarks of wet silica in the specification (page 14, lines 31-34 and Example 1, page 29).

Therefore, in view of identical acrylic rubber composition between Kobayashi and instant claims, it is the examiner's position that Kobayashi's filler – white silica which inherently possesses these properties. Since the USPTO does not have equipment to

do the analytical test, the burden is now shifted to the applicant to prove otherwise. *In re Fitzgerald* 619 F.2d 67, 70, 205 USPQ 594, 596 (CCPA 1980).

With regard to the limitations of claims 6, 7 and 10, Kobayashi does not disclose a process of the preparation of calcined silica.

In view of substantially identical white silica being used by both Kobayashi and the applicant (trademarks Nipsil and Caplex), it is the examiner position to believe that the product, i.e. white wet silica of Kobayashi is substantially the same as the calcined silica recited in claims 6, 7 and 10, even though obtained by a different process, consult *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985).

Since the USPTO does not have proper equipment to do the analytical test, the burden is now shifted to the applicant to prove otherwise.

"[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985).

With regard to the limitations of claims 5 and 11, Kobayashi discloses that the white filler must have a pH in the range of 2-10, preferably 3-8, which is within the claimed range. Given as examples of white fillers are **white carbon (silica)**, Celite, talc, clay, **calcined clay**, magnesium carbonate, magnesium methasilicate, calcium carbonate, aluminum hydroxide, magnesium hydroxide, and titanium dioxide. Of these,



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white carbon is desirable for obtaining a high crosslinking density. These white fillers may be used after surface treatment using a silane coupling agent, alcohol, or amine. These white fillers may be used either individually or in combinations of two or more (col. 8, lines 5-19).

With regard to the limitations of claim 15, Kobayashi discloses that particularly, as crosslinking agents for a halogen-containing acrylic rubber, a composition comprising a fatty acid metal soap and sulfur or a sulfur donor, a composition comprising a **triazine derivative** and a **dithiocarbamate acid derivative**, and the like are known (col. 1, lines 24-28). These compounds are exemplified by the Applicants as crosslinking accelerator having a base dissociation constant in the range of  $10^{-12}$  to  $10^6$  as measured in water at a temperature of 25°C (the specification, pages 20-22).

With regard to the limitations of claim 16, Kobayashi discloses a silane coupling agent, which amount is usually 0.1-10 parts per weight, preferable 0.1-8 parts by weight, for 100 parts by weight of the halogen-containing acrylic rubber, which is within the claimed range (col. 8, lines 27-57).

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not

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mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MICHAEL M. BERNSHTEYN whose telephone number is (571)272-2411. The examiner can normally be reached on M-Th 8-6:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski can be reached on 571-272-1302. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Michael M. Bernshteyn/  
Examiner, Art Unit 1796

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Examiner, Art Unit 1796

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